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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,959	11/20/2003	Jong Taek Kwak	SUN-0033	9018

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EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,959

Applicant(s)

KWAK, JONG TAEK

Examiner

Thanh X. Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-17 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This Office Action is in response to amendments and remarks filed March 9, 2006. Claims 1-18 are currently pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bohn (U.S. Patent 6,429,422).

Regarding claim 1, Bohn discloses, (see Figs. 4 and 5) a system comprising: an image sensor (50) for detecting light reflected from a worktable surface to generate an image signal; a maximum search window variable circuit (firmware; see col. 10, lines 20-25) for inputting at least one of the image signal and a movement value to change a size of a maximum search window (apertures 84 or 86); and a sensor circuit having a movement value calculation circuit (position calculation; see Fig. 8) for calculating the movement value of the image signal using the changed maximum window. As understood, the device of Bohn is an optical pointing system since the same structure is disclosed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-7 and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bohn in view of Oliver et al. (U.S. Patent 6,455,840).

Regarding claims 2, 3, 5-7, 12, 13 and 15-17, Bohn discloses the claimed invention as set forth above. Bohn does not specifically disclose changing a sampling rate as claimed. Oliver et al. teach (see Fig. 5) in a similar device changing the sampling rate based on the movement value (velocity) in order to conserve power. The calculations are iterative, thus, the new movement value and maximum search window size are calculated based on the changed sampling rate. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to change the sampling rate in the apparatus of Bohn in view of Oliver et al. to obtain a more efficient device.

Regarding claims 4 and 14, Bohn in view of Oliver et al. disclose the claimed invention as set forth above. Bohn and Oliver et al. do not specifically disclose an A/D converter and providing digital signals as claimed. However, providing digital signals as opposed to analog signals is well known and is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to convert analog signals to digital signals in the apparatus of Bohn in view of Oliver et al. to improve detection by providing more noise resilient signals.

Regarding claims 10 and 11, Bohn in view of Oliver et al. disclose the claimed invention as set forth above. Bohn and Oliver et al. do not specifically disclose clock

dividing circuit or a phase locked loop for changing the sampling rate as claimed. However, changing a sampling rate or a clock based on a clock divider or a phased locked loop is notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such circuits in the apparatus of Bohn in view of Oliver et al. to efficiently and effectively change the sampling rate.

Allowable Subject Matter

5. Claims 8, 9 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: a system as claimed, more specifically in combination with: adjusting the size of the maximum search window based on the quantity of light and the movement speed; and calculating a mask window size, is not disclosed or made obvious by the prior art of record.

Response to Arguments

7. Applicant's arguments filed March 9, 2006 have been fully considered but they are not persuasive.

Applicant asserts that the prior art does not disclose a maximum search window variable circuit and changing the maximum search window in size because it is equivalent to the shutter assembly of the present invention and not the maximum search window assembly. Examiner disagrees. Nothing in the claims precludes such

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an interpretation of the prior art. As claimed, the invention reads on the aperture assembly of the prior art. Applicant has failed to set forth any other substantive reasons why the invention is not anticipated by the prior art.

Applicant also asserts that in the reference of Oliver there is no motivation to change the size of the maximum search window. Examiner disagrees. Examiner reminds Applicant that the references should be taken in combination and not singly. The reference of Bohn discloses the change in size of the maximum search window. Oliver teaches changing the sampling rate in order to conserve power. As set forth above, one of ordinary skill in the art would recognize the advantages of Oliver to modify the apparatus of Bohn with a variable sampling rate. Applicant has failed to challenge the motivation as set forth.

Thus, as understood, this rejection is proper.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh X Luu
Primary Examiner
Art Unit 2878

03/2006